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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/701,994

11/05/2003

Michael Mallary

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EXAMINER

BLOUIN, MARK S

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

02/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/701,994

Applicant(s)

MALLARY ET AL.

Examiner

Mark Blouin

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,8-13,17,18,30-35 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-13,17,18,30-35 and 39-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☒ Other: Examiner's Drawing

Detailed Action

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 27, 2007 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,8-13,17,18,30-35, and 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Taguchi (USPub 2004/0212923).

3. Regarding Claims 1,13, and 30, Taguchi shows (Figs. 6-8) a read/write head for a disk drive, the head being suitable for recording data in adjacent magnetic recording media, the media (10) including a first layer for recording data (13) and a second layer that is a soft underlayer (12) to return magnetic flux to the read/write head, the head comprising: a substrate [0044]; a write pole (41) formed directly on the substrate comprising a write pole tip (end of 41) formed proximate to the substrate, the write pole having a magnetic via section (43); a write shield (42f) formed proximate to the write pole and located on an opposite side of the write pole from the substrate, the write shield being magnetically connected to the magnetic via section of the write

Art Unit: 2627

pole; a read element comprising a magnetoresistive sensor(32) formed adjacent to the write element on an opposite side of the write element from the substrate, a first read shield (31) proximate to the write shield and located on an opposite side of the write shield from the substrate; a second read shield (33) proximate to the first read shield and located on an opposite side of the first read shield from the write pole; a magnetoresistive sensor (122) located between the first and second read shields; and, wherein the first read shield is magnetically connected to the write pole, wherein the distance between the write pole tip and the substrate is less than the distance between the shield and the substrate.

4. Regarding Claim 2 and 31-33, Taguchi shows (Figs. 6-8) a read/write head, further including a write coil (44) that coils around the magnetic via section (43), wherein the write coil is a pancake (flat) coil, wherein there are no other write coils.

5. Regarding Claims 8-11, Taguchi shows (Figs. 6-8) a read/write head, wherein the read element includes a pair of read shields (31 and 33) and the write element includes a write pole (41) and a write shield (42f) that is magnetically connected to the write pole, wherein the write element includes a coil (44) that coils around a portion of the write element that connects the write shield to the write pole, wherein the write coil is a pancake (flat) coil, wherein there are no other write coils.

6. Regarding Claims 17 and 39, Taguchi shows (Figs. 6-8) a read/write head, wherein the adjacent magnetic recording media (10) is caused to move relative to the read/write head in a direction that causes a given portion of media to pass first by the write pole (41) and then by the magnetoresistive sensor (32).

Art Unit: 2627

7. Regarding Claims 18 and 40, Taguchi shows (Figs. 6-8) a read/write head, wherein the head is configured to perpendicularly record data in the first layer (13) of the adjacent magnetic recording media (10).
8. Regarding Claim 35, Taguchi shows (Figs. 6-8) a read/write head, wherein the write pole (41) is formed directly on the substrate .
9. Regarding Claim 41, Taguchi shows (Figs. 6-8) a read/write head wherein a single uniform layer of insulating material (42n) separates the write element and read element.
10. Regarding Claim 42, Taguchi shows (Figs. 6-8) a read/write head wherein a region of insulating material (material that coil is embedded) separates a tip of the write pole (41) from the substrate.
11. Regarding Claim 12, Taguchi shows (Figs. 6-8) a read/write head for a disk drive, the head being suitable for recording data in adjacent magnetic recording media, the media (10) including a first layer (13) for recording data and a second layer that is a soft underlayer (12) to return magnetic flux to the read/write head, the head comprising: a substrate [0044]; a write element (41,42,43) formed adjacent the substrate, the write element being configured to record data in adjacent media; a read element (32) formed adjacent the write element, on an opposite side of the write element from the substrate; wherein the read element comprises a read shield magnetically connected to the write element; wherein the read element includes a pair of read shields (31,33) and the write element includes a write pole (41) and a write shield (42) that is magnetically connected to the write pole; and wherein the distance from the write pole to the soft underlayer falls within a range from approximately equal to the distance from the write shield to the write pole to approximately twice the distance from the write shield to the write pole.

12. Regarding Claim 34, Taguchi shows (Figs. 6-8) a read/write head for a disk drive, the head being suitable for recording data in adjacent magnetic recording media, the media (10) including a first layer (13) for recording data and a second layer that is a soft underlayer (12) to return magnetic flux to the read/write head, the head comprising: a substrate [0044]; a write pole (41) formed proximate to the substrate, the write pole having a magnetic via section (43); a write shield (42f) formed proximate to the write pole and located on an opposite side of the write pole from the substrate, the write shield being magnetically connected to the magnetic via section of the write pole; a first read shield (33) proximate to the write shield and located on an opposite side of the write shield from the substrate; a second read shield (33) proximate to the first read shield and located on an opposite side of the first read shield from the write pole; a magnetoresistive sensor (32) located between the first and second read shields; wherein the first read shield is magnetically connected to the write pole; and wherein the distance from the write pole to the soft underlayer falls within a range from approximately equal to half the distance from the write shield to the write pole to approximately twice the distance from the write shield to the write pole.

Conclusion

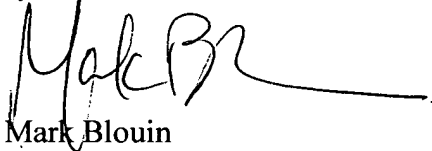
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is 571-272-7583. The examiner can normally be reached on M-F from 6:00 to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on 571-272-7579. The fax phone number for the

Art Unit: 2627

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Mark Blouin', with a long horizontal stroke extending to the right.

Mark Blouin
Patent Examiner
Art Unit 2627
February 11, 2008